Wireless-N PCI Adapter
User Manual

V1.0
2010-06-28

Certification

FCC CE

FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
-Reorient or relocate the receiving antenna.
-Increase the separation between the equipment and receiver.
-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-Consult the dealer or an experienced radio/TV technician for help.
To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. (Example- use only shielded interface cables when connecting to computer or peripheral devices)

FCC Radiation Exposure Statement

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
This equipment complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) This device must accept any interference received, including interference that may cause undesired operation.

Caution!

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user authority to operate the equipment

Package Contents

The following items should be found in your package:

- Wireless-N PCI Adapter
- CD-ROM
- Quick Installation Guides

Make sure that the package contains above items. If any of the listed items is damaged or missing, please contact with your distributor.

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1 Introduction

Thank you for choosing the Wireless-N PCI adapter

1.1 Product Overview

The Wireless-N PCI Adapter is a powerful 32-bit PCI Adapter that installs quickly and easily into PCs. The Adapter can be used in Ad-Hoc mode to connect directly with other cards for peer-to-peer file sharing or in Infrastructure mode to connect with a wireless access point or router for access to the Internet in your office or home network.

The Wireless-N PCI Adapter connects with 802.11n networks at up to an incredible 150Mbps! And for added versatility, it can also interoperate with all the up to 54Mbps 802.11g or 11Mbps 802.11b products found in homes, businesses, and public wireless hotspots around the country. And in every mode, your wireless communications are protected, so your data stays secure.

1.2 Main Features

- Compiles with IEEE802.11n/b/g standards
- Compliant with PCI 2.3Standard
- Support 64/128-bit WEP,WPA and WPA2 wireless security modes
- Windows 7-32/64 bit, Vista 32/64 bit, XP, 2000, Mac OS, Linux supportive
- Supports Sony PSP X-link for online gaming
- Lower power consumption
- Easy to install and configure
- Support WPS

1.3 Supporting Standard and Protocol

- 802.11b/g/n

1.4 Working Environment

Temperature

- 0 °to 40 °C (operating)
- -20 °to 70 °C (storage)

Humidity

- 10% to 85 % non-condensing (operating)
- 5% to 90% non-condensing (storage)

1.5 System Requirement

You must have the following at least

- A desktop computer with an available 32-bit PCI slot.
- At least a 300 MHz processor and 32 MB of memory
- An 802.11b/g/n Access Point (for Infrastructure Mode) or another 802.11b/g/n wireless adapter (for Ad-Hoc, Peer-to-Peer networking mode.)

2 Driver and Hardware Installation

2.1 Driver installation of the Wireless-N PCI Adapter

Turn on the computer and Insert the Wireless-N PCI Adapter Driver CD in the CD-ROM drive. The Install Screen will appear. If not, click the Start button and choose Run and enter D:\autorun.exe (if 'D' is the letter of your CD-ROM drive)

Select Drivers, choose the modem of your product and operate according to the instruction. The following is the step-by-step instructions in Windows XP. The steps and screens are similar for the other Windows operating systems

- Select "I accept the tems of the license agreement" and then click Next

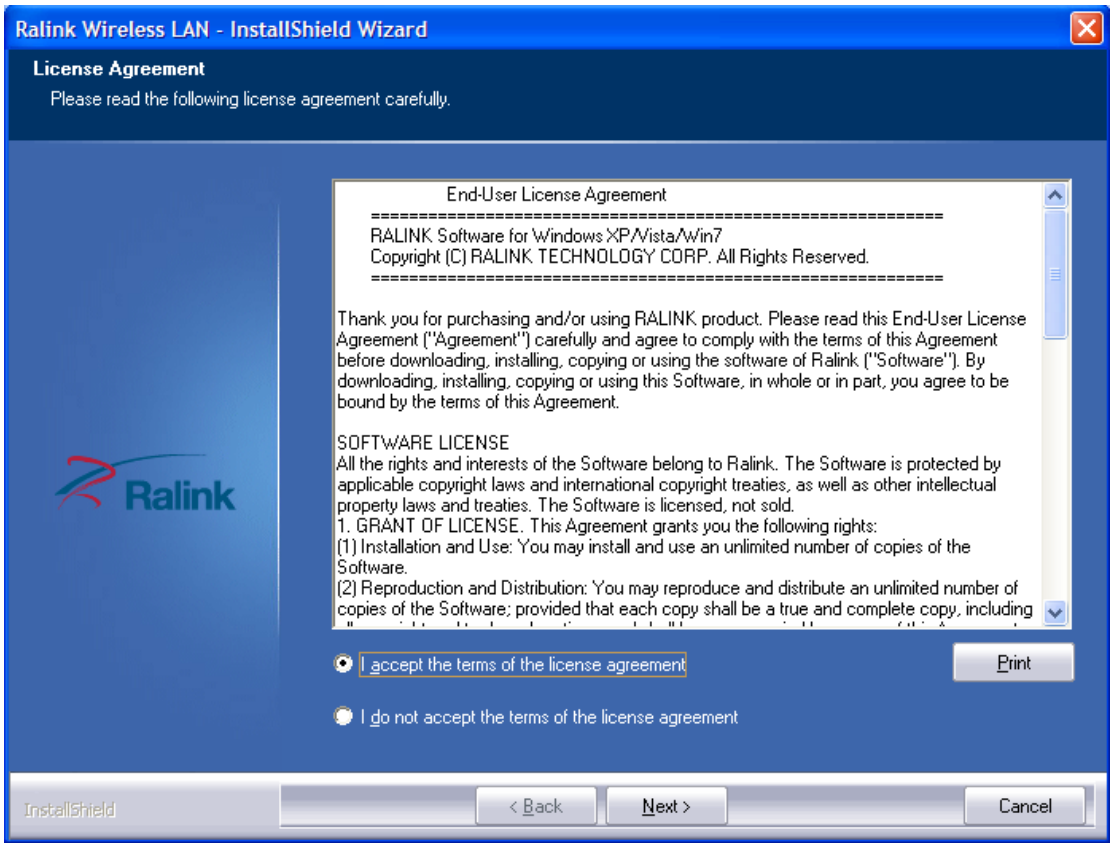
Ralink Wireless LAN - InstallShield Wizard
License Agreement
Please read the following license agreement carefully.
End-User License Agreement
RALINK Software for Windows XP/Vista/Win7
Copyright (C) RALINK TECHNOLOGY CORP. All Rights Reserved.
Thank you for purchasing and/or using RALINK product. Please read this End-User License Agreement ("Agreement") carefully and agree to comply with the terms of this Agreement before downloading, installing, copying or using the software of Ralink ("Software"). By downloading, installing, copying or using this Software, in whole or in part, you agree to be bound by the terms of this Agreement.
SOFTWARE LICENSE
All the rights and interests of the Software belong to Ralink. The Software is protected by applicable copyright laws and international copyright treaties, as well as other intellectual property laws and treaties. The Software is licensed, not sold.
1. GRANT OF LICENSE. This Agreement grants you the following rights:
(1) Installation and Use: You may install and use an unlimited number of copies of the Software.
(2) Reproduction and Distribution: You may reproduce and distribute an unlimited number of copies of the Software; provided that each copy shall be a true and complete copy, including
I accept the terms of the license agreement
I do not accept the terms of the license agreement
Print
Ralink
InstallShield
< Back
Next >
Cancel

Figure 2-1

- Select "Install driver and Ralink WLAN Utility" and Click Next

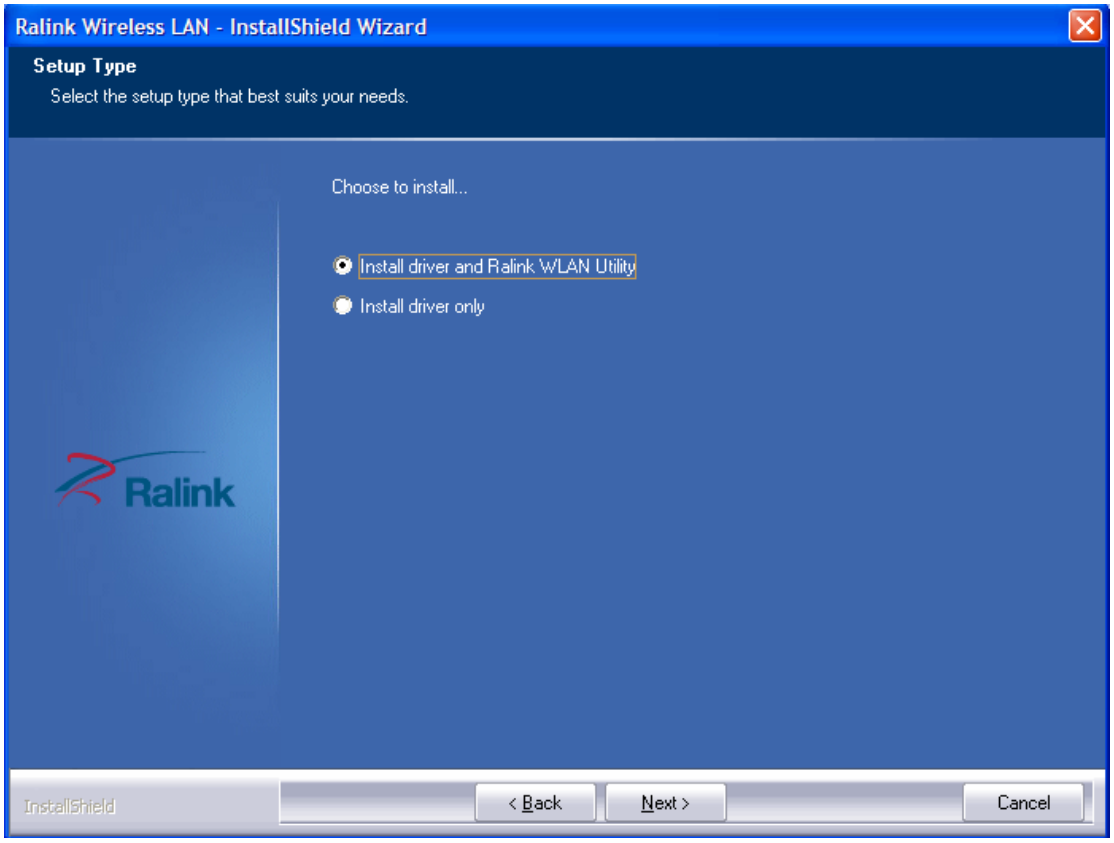

Figure 2-2

➢ Select “Ralink Configuration Tool” and Click Install

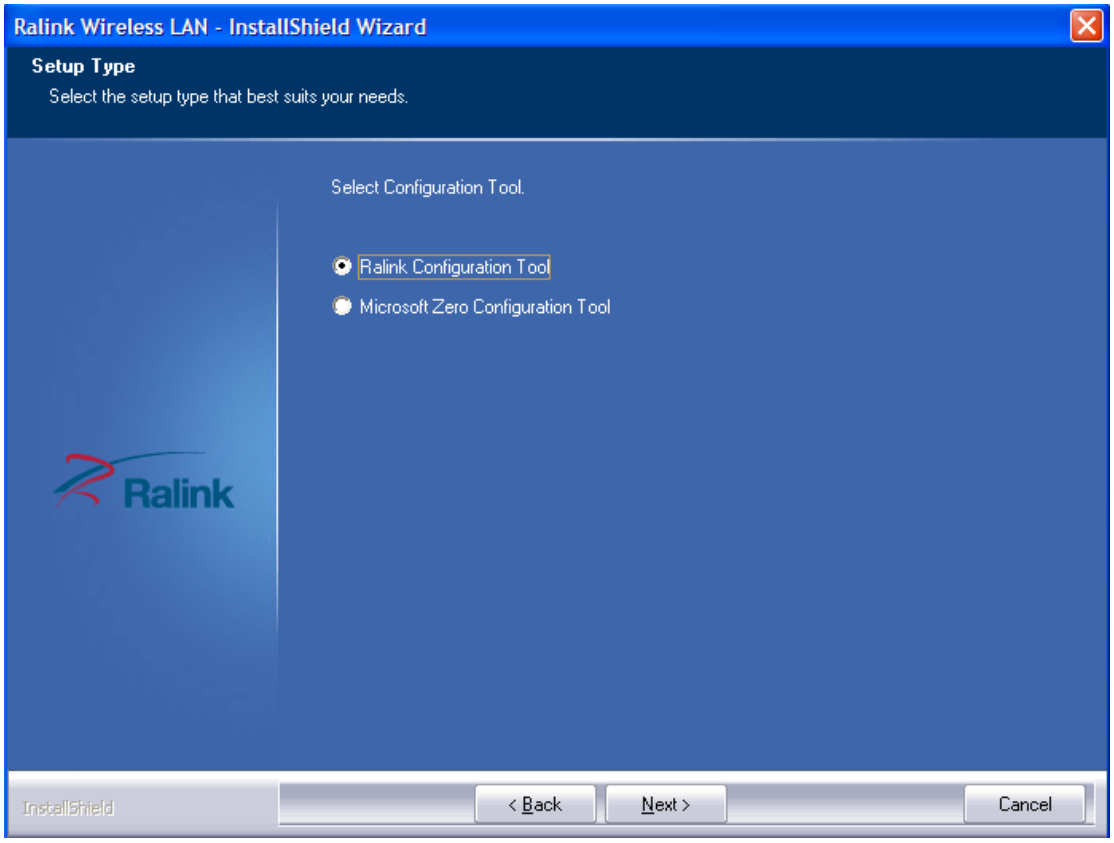

Figure 2-3

➢ Click Install

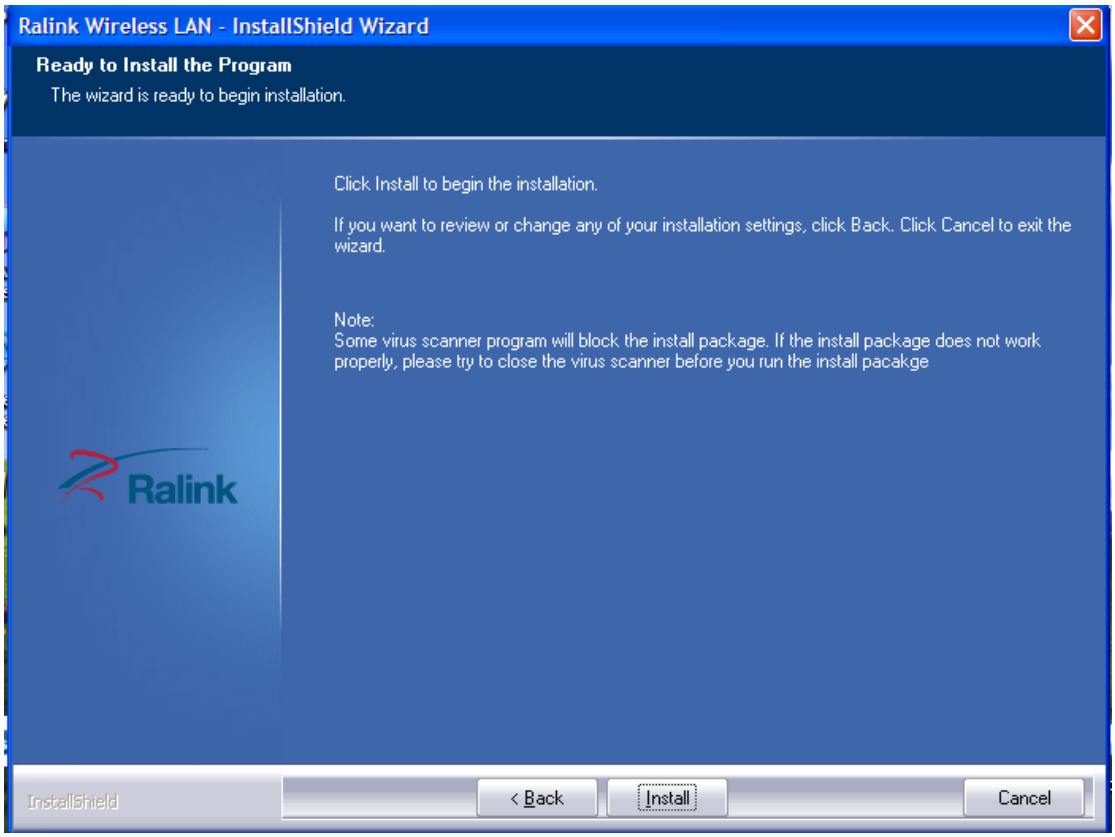
Ralink Wireless LAN - InstallShield Wizard
Ready to Install the Program
The wizard is ready to begin installation.
Click Install to begin the installation.
If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.
Note:
Some virus scanner program will block the install package. If the install package does not work properly, please try to close the virus scanner before you run the install pacakge
Ralink
InstallShield
< Back
Install
Cancel

Figure 2-4

- Click Finish to finish the driver installation

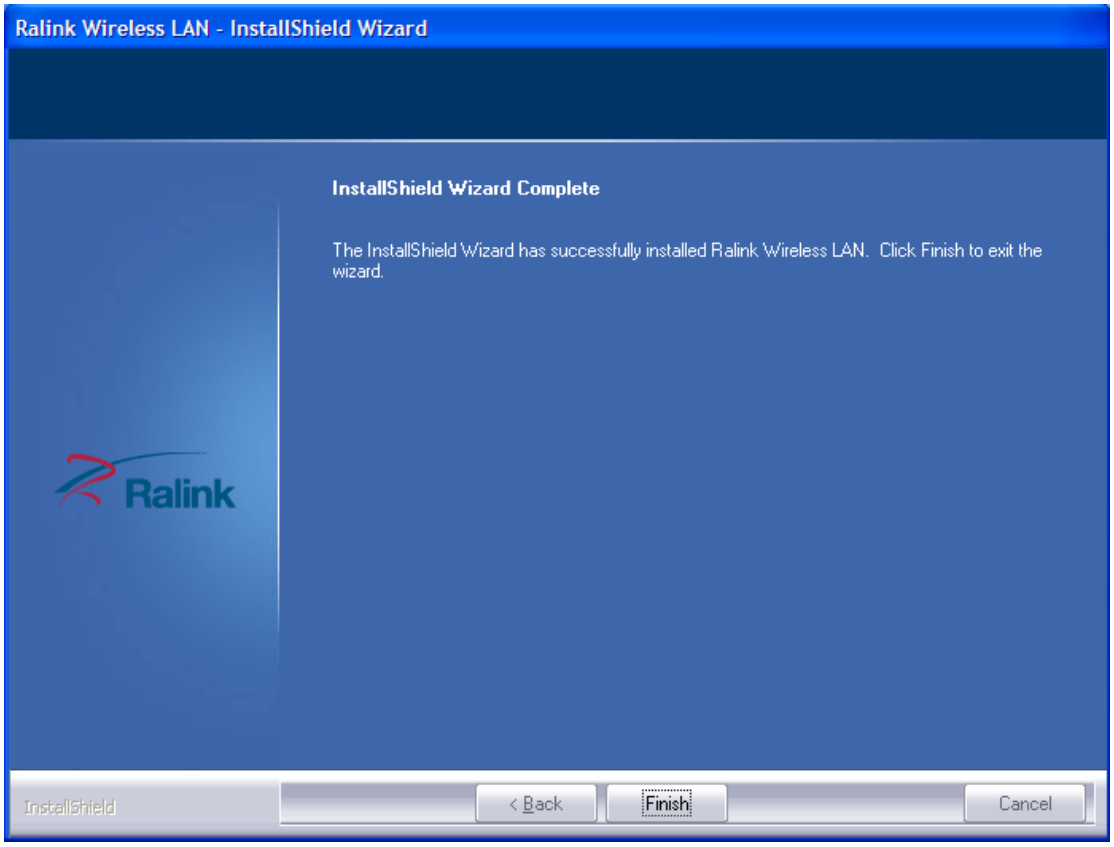

Figure 2-5

2.2 Hardware installation of the Wireless PCI Adapter

2.2.1 Install the Wireless-N PCI adapter into your computer

- Make sure to turn off your computer and unplug the power cord. Remove the back cover of the computer.
- Install the Wireless-N PCI Adapter carefully and firmly seat it into an available PCI slot (to avoid damage caused by static electricity, make sure to properly ground yourself by first touching a metal part of your computer to discharge any static electricity before working with the Wireless-N PCI Adapter).
- Secure the Wireless-N PCI Adapter back panel shield with a screw.
- Replace the computer's cover.
- Place the computer back in its normal position.
- Attach the Wireless-N PCI Adapter's antenna to the socket on the back panel shield.

2.2.2 Restart your computer

Turn on the computer, the Found New Hardware Wizard (windows XP) screen will appear:

- Select Install the software automatically (Recommended) and then click Next

Hardware Update Wizard
Welcome to the Hardware Update Wizard
This wizard helps you install software for:
Wireless LAN Network Adapter
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel

Figure 2-6

- Click Finish to finish the hardware installation

Figure 2-7

The installation is completed

3 System configuration

Use the Ralink WLAN Utility to check the link information, search for available wireless networks, or create profiles that hold different configuration settings. You can double-click the icon on your desktop to run it. Another way to start the Configuration Utility is to click Start> All Programs> Ralink Wireless> Ralink Wireless Utility.

3.1 General

The General tab displays current Wireless statistics.

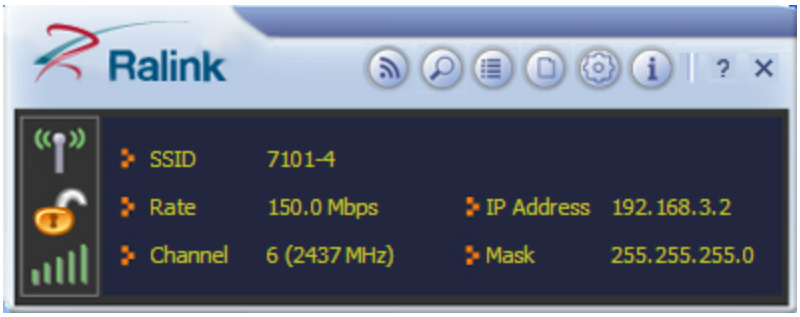

Figure 3-1

General Information

- SSID: The unique name of the wireless network.
- Rate: The data transfer rate of the current connection.
- IP Address: The IP Address of the Adapter.
- Mask: The Subnet Mask of the Adapter.
- Channel: the channel of the current connection

3.2 Profile

3.2.1 Quick Connect

If you want your wireless computers to communicate with other computers on your wired network via a wireless access point.

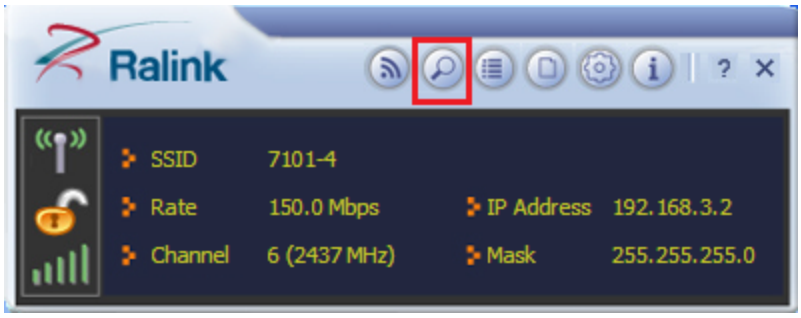

Figure 3-2

Select Available Network tab (show in Figure 3-2) and click Refresh button (show in Figure 3-3) to refresh current available wireless network, you can double click it after highlighting a wireless network you want to connect, If it is encrypted, you need to enter Network Key and confirm it and it will be OK (Note: profile will detect the the Authentication and Encryption of current wireless network, you don't need to change it)

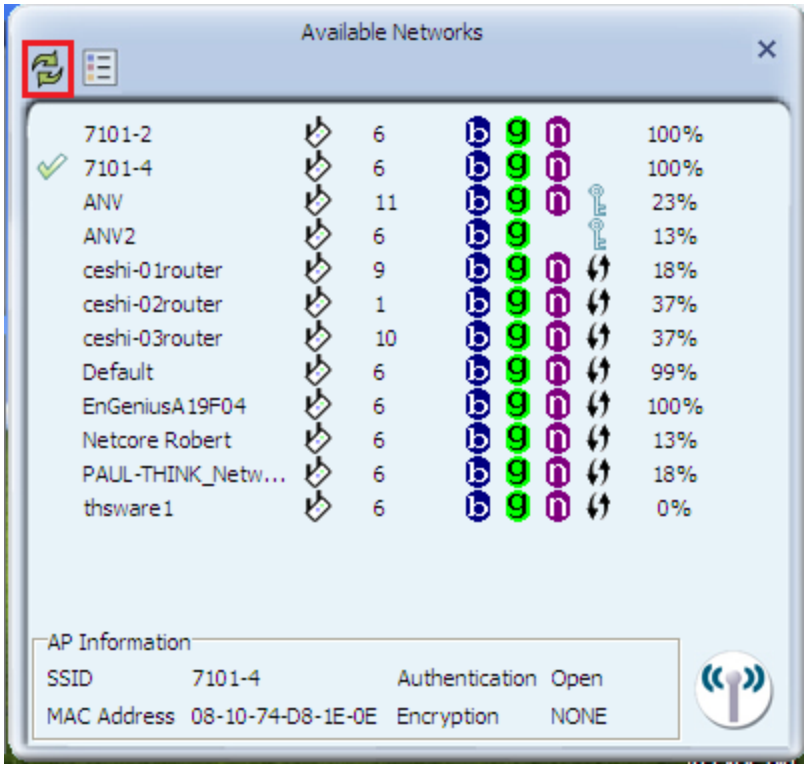

Figure 3-3

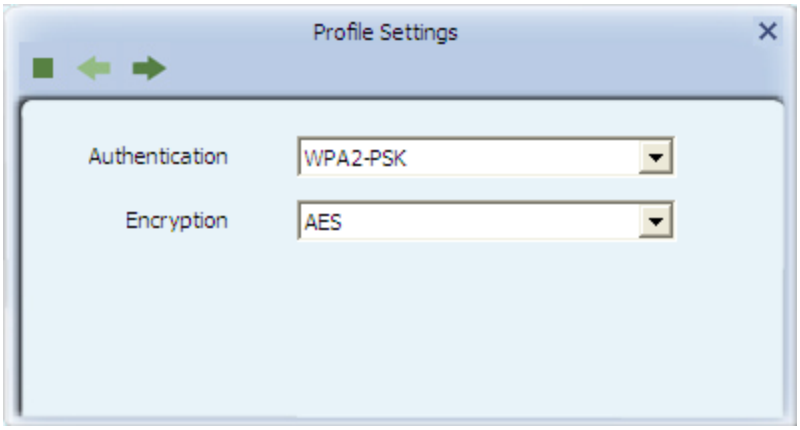

Figure 3-4

Click to enter the encryption code.

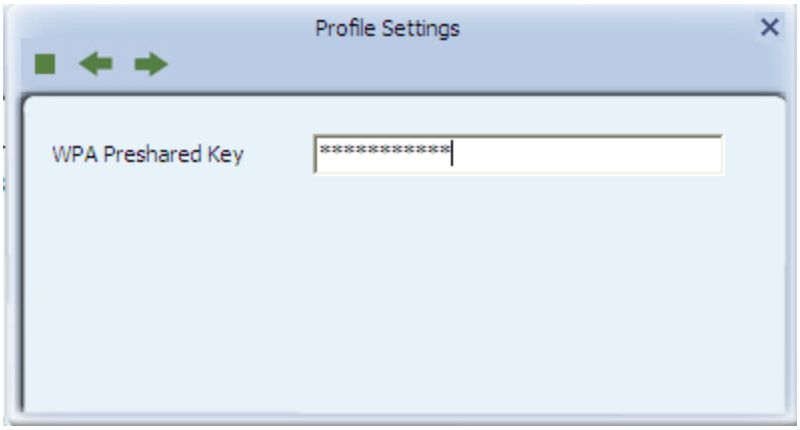

Figure 3-5

Click to connect the wireless network.

3.2.2 Add to profile

Select a wireless network and click the “red” button to create this profile (the following picture).

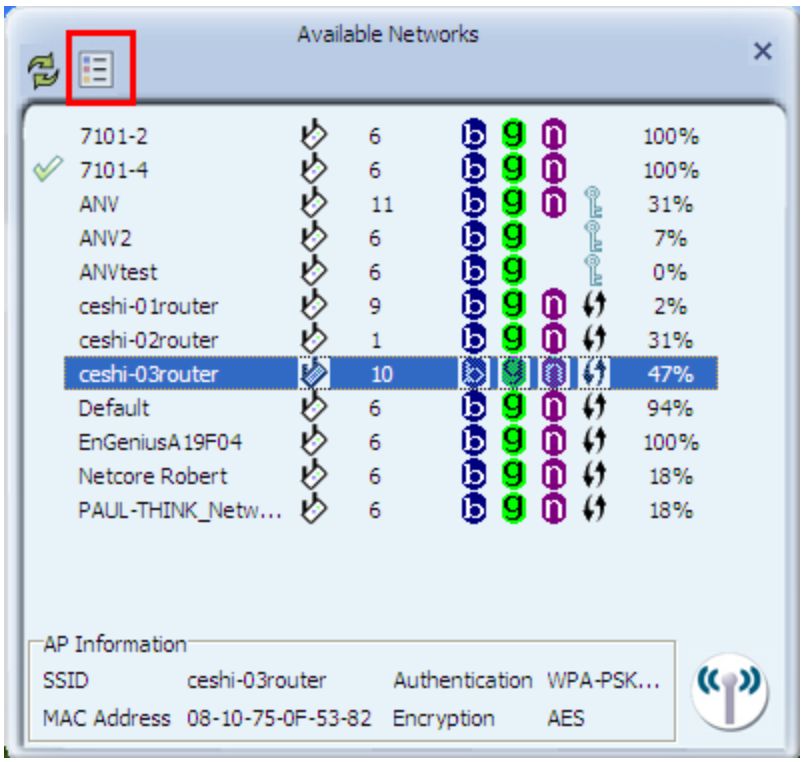

Figure 3-6

Input the profile name and select Network Type, you should select "Infrastructure-connection to AP", then click .

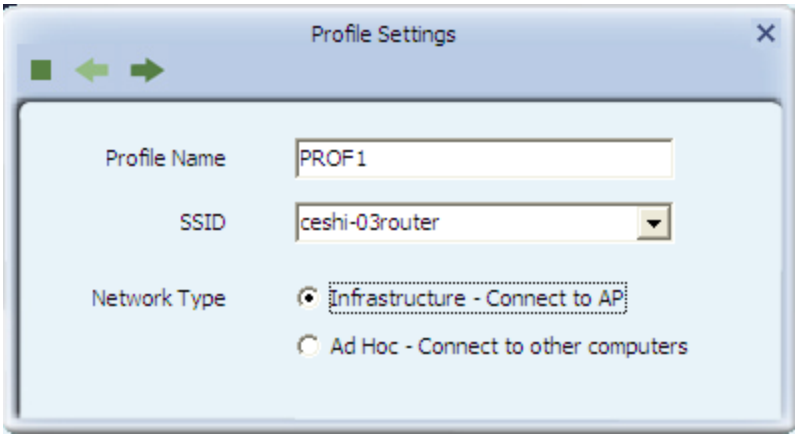

Figure 3-7

If it is encrypted, you need to enter Network Key to confirm it and then click next(Note: profile will detect the the Authentication and Encryption of current wireless network, you don't need to change it)

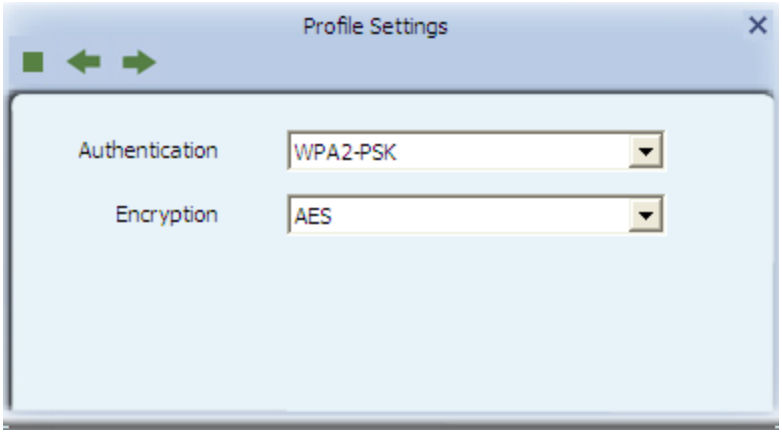

Figure 3-8

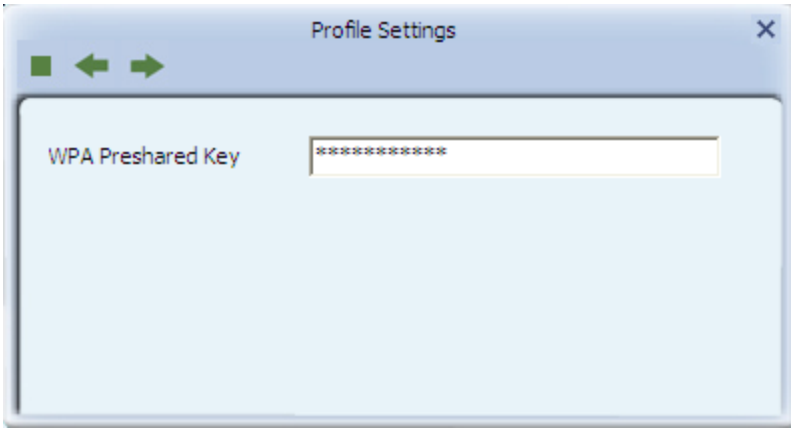

Figure 3-9

You can select "Use Pre-logon Connection" and click

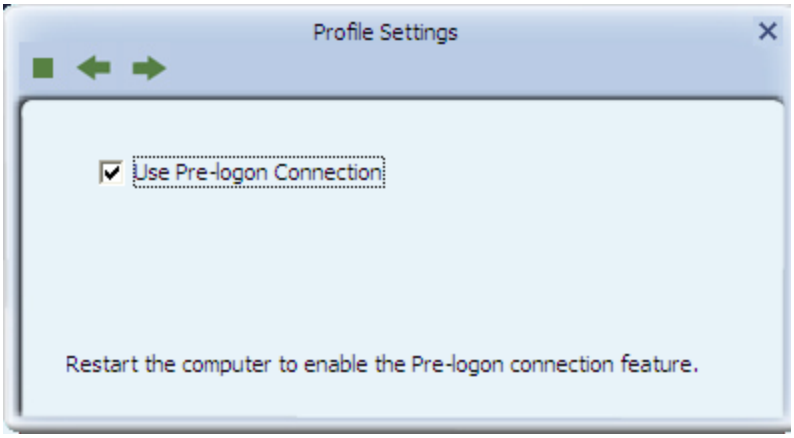

Figure 3-10

The wireless network connection be added to the profile list

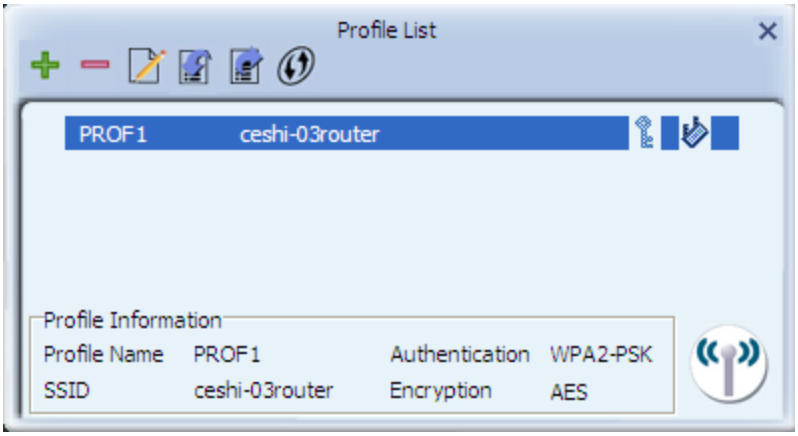

Figure 3-11

3.2.3 Profile Management

Select a profile and you can delete, edit and export to computer as a Wireless profile file.

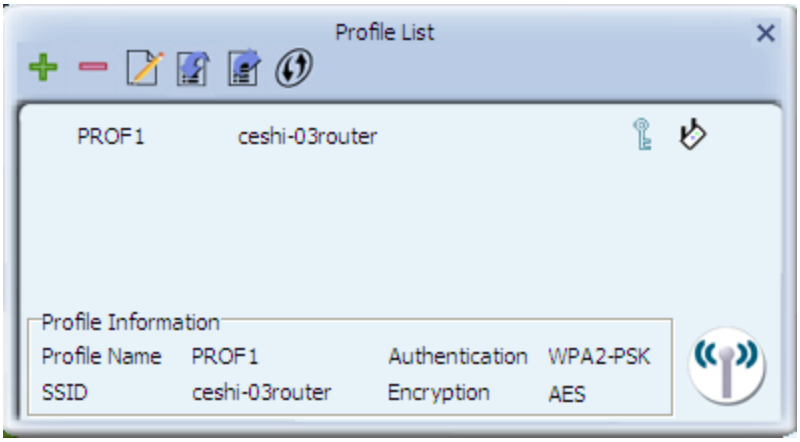

Figure 3-12

Also you can click the "Red" button to display the Profile list.

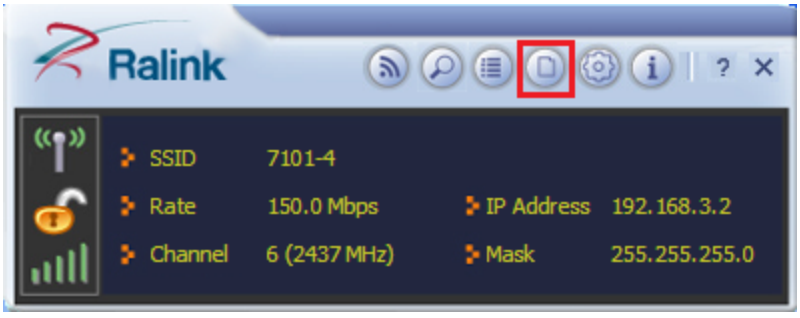

Figure 3-13

Select a profile and click the "red" button to save the current profile as a .prof file to your computer.

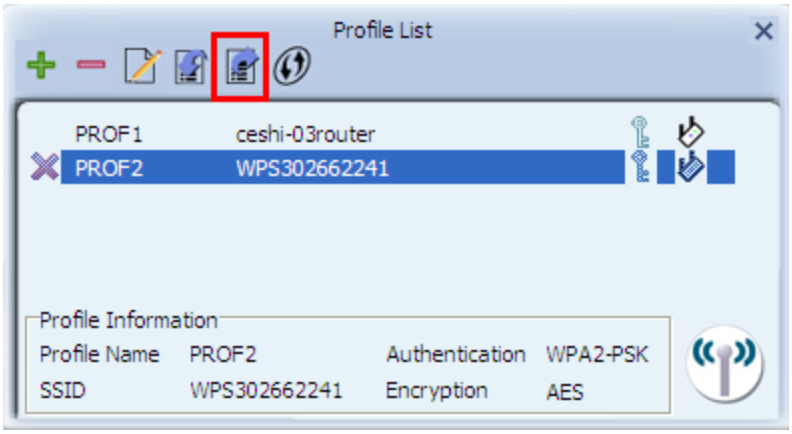

Figure 3-14

Give the saved profile file a name and click save

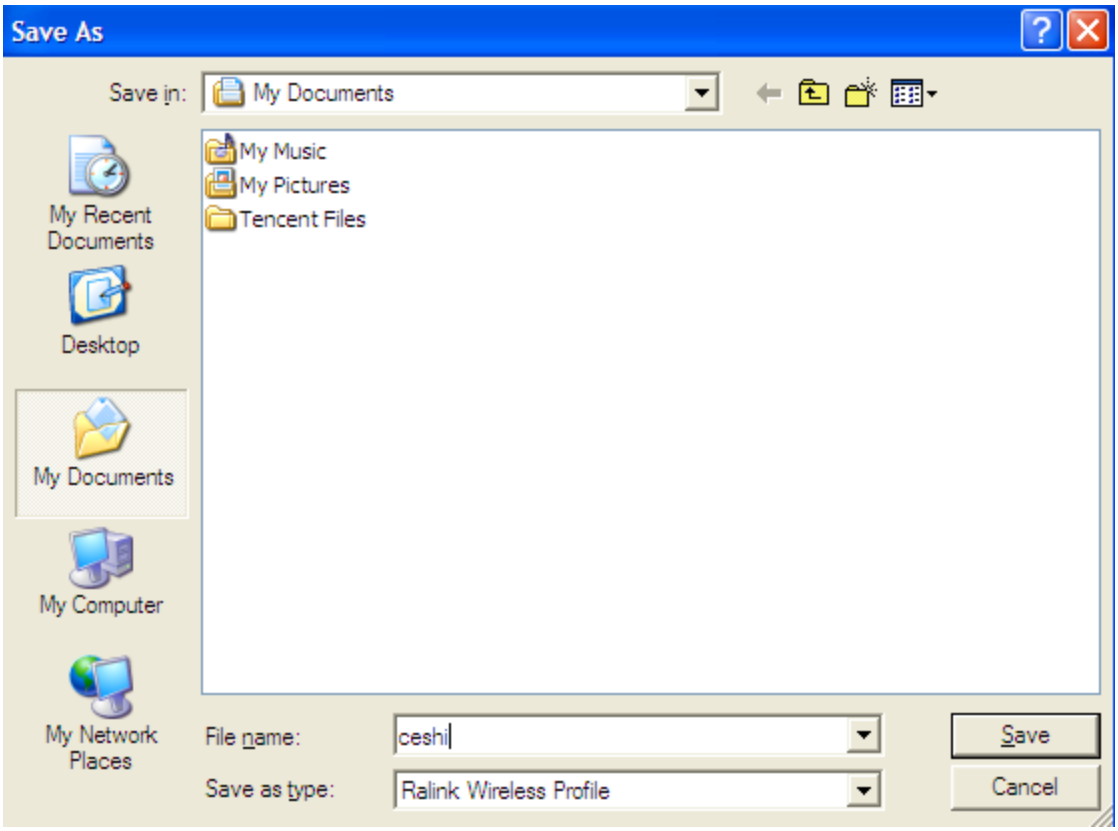

Figure 3-15

3.3 Wi-Fi protect setup

Wi-Fi Protect Setup (WPS) function can let you create a safety network easily. You can through 'PIN Input Config (PIN)' or 'Push Button (PBC)'to encrypt your network. You only need to push the WPS button in the router which support WPS function and click the functions in this adapter, then the router will be encrypted to WPA2-AES mode automatically

Note:

- The status of WPS in the router must be enabled
- If you have configured encryption mode in your router, then when you use this WPS function, please configure encryption mode to NONE, then it will be encrypted to WPA2-AES mode automatically. If you don't want to change your encryption mode, then when you use this function, the router will be encrypted to the mode that you have configured

Click the "Red" button to add a WPS Profile in profile list

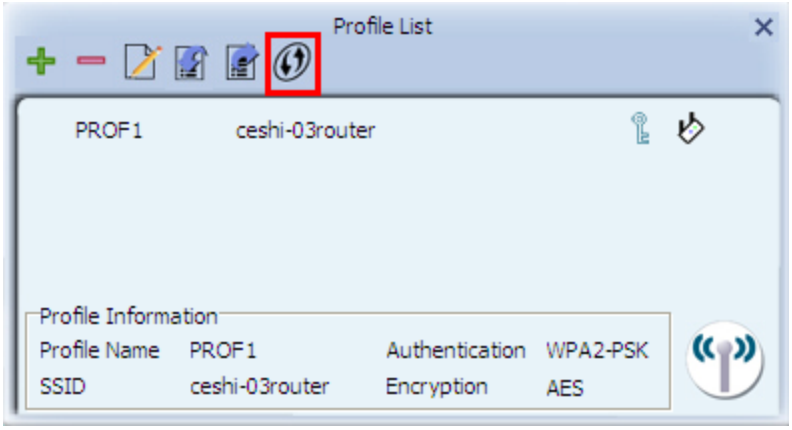

Figure 3-16

There are 2 methods to set a WPS encryption for a wireless network: PBC and PIN

Method1: PBC

Select "Push-Button Configuration(PBC)" in WPS Method then click next.

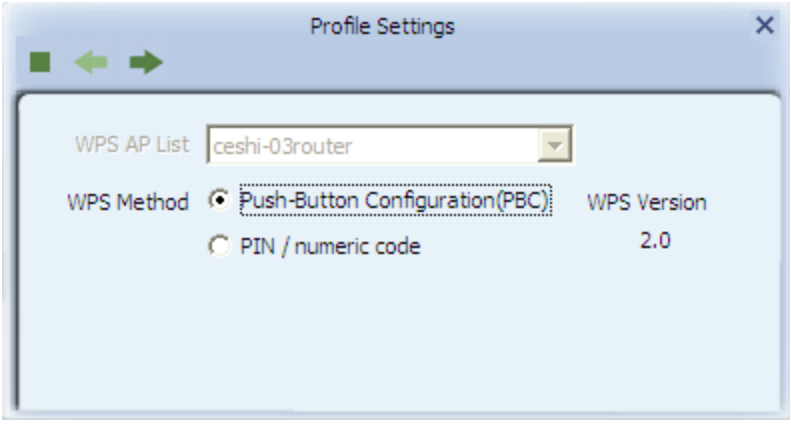

Figure 3-17

Click "Start PBC" and click the WPS button of your wireless router at the same time, Please wait a moment, the connection between the adapter and the router will be established automatically.

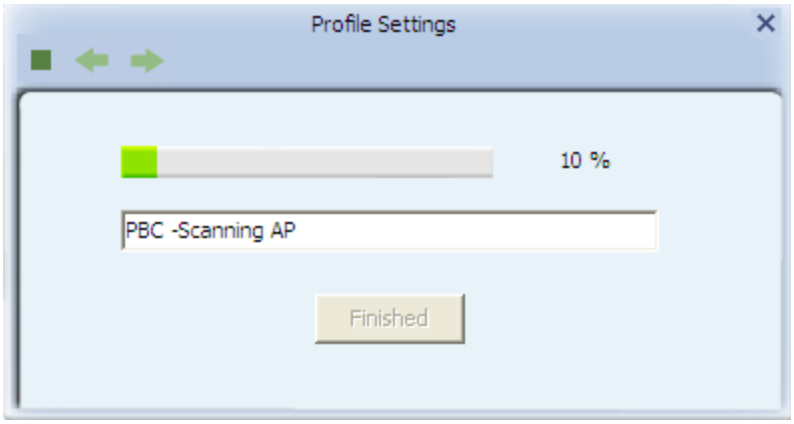

Figure 3-18

Method2: PIN

Select “PIN/numeric code” in WPS Method then click next.

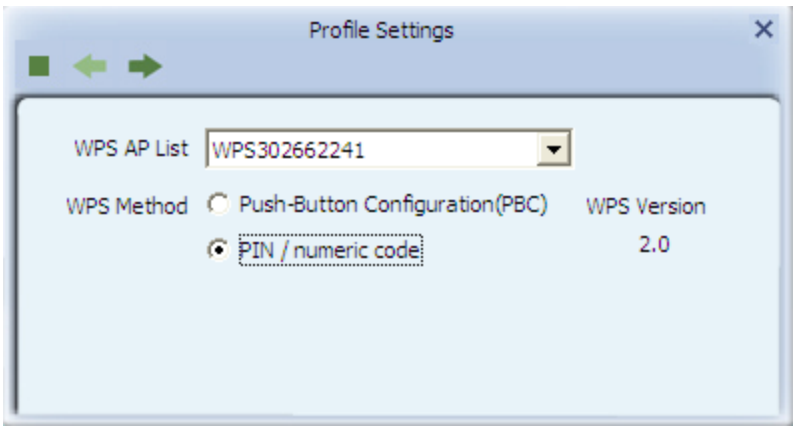

Figure 3-19

Select “Registrar” in Config mode, and you will get a number in PIN Code, then click next. Click “Start PIN” button, then Input the PIN code of the adapter’s WPS page into the router’s WPS configure page, then click ‘connect’, Please wait a moment, the connection between the adapter and the router will be established automatically.

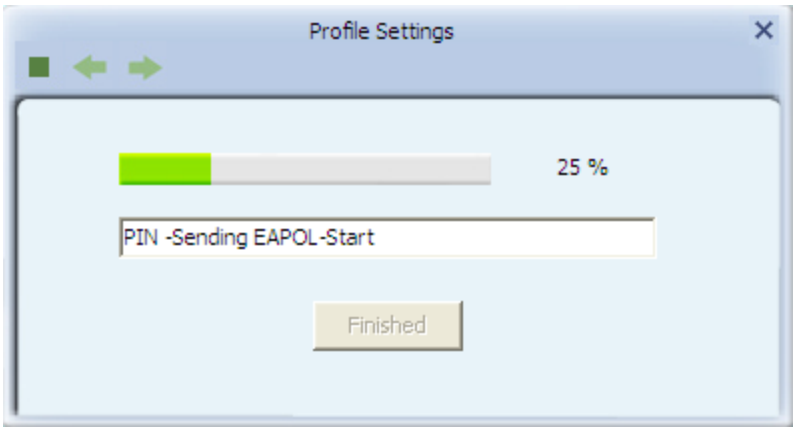

Figure 3-20

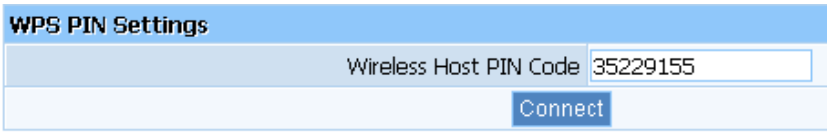

Figure 3-21

3.4 Available Network

The Available Network tab, displays a list of infrastructure and ad-hoc networks available for connection.

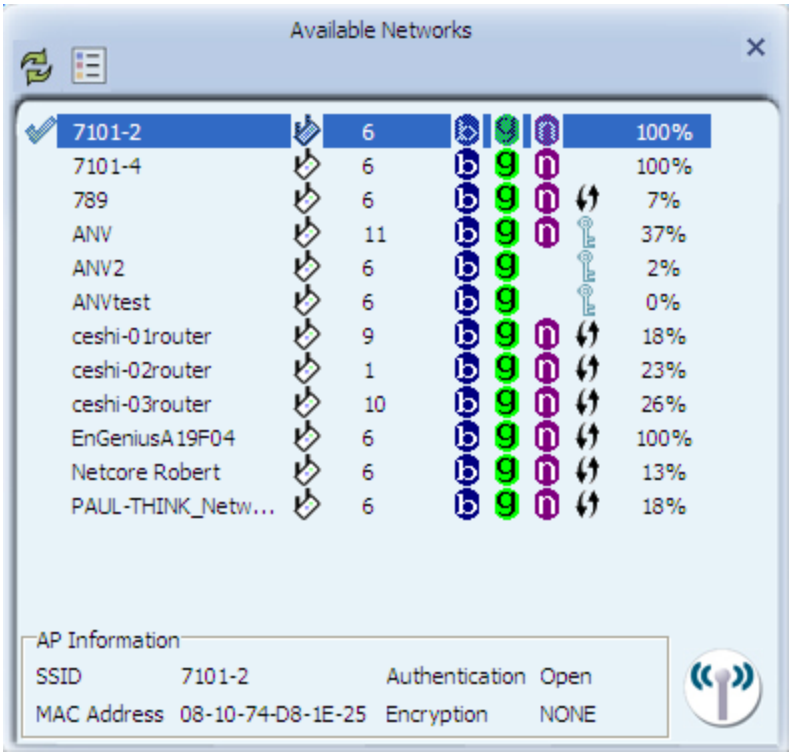

Figure 3-22

The section of the window displays the Available Networks. Double-click the network to which you wish to connect.

3.5 Link Information

Click the “Red” button to show the link information.

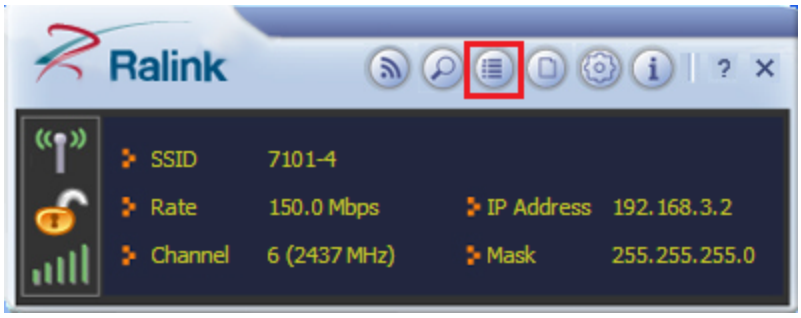

Figure 3-23

The Status tab displays the detailed information of current device and wireless connection.

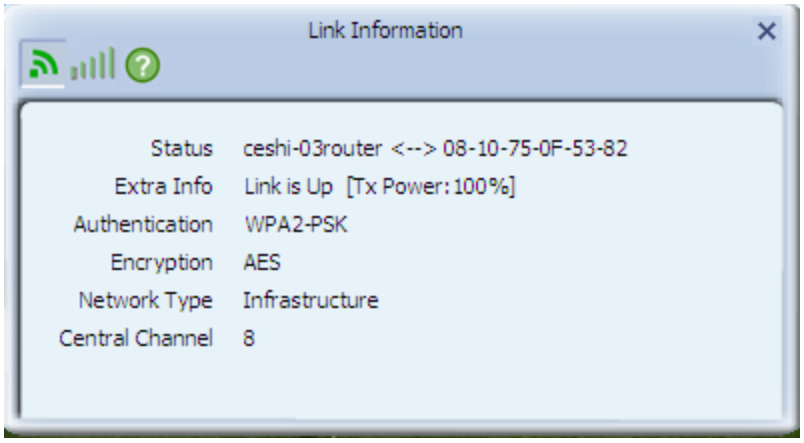

Figure 3-24

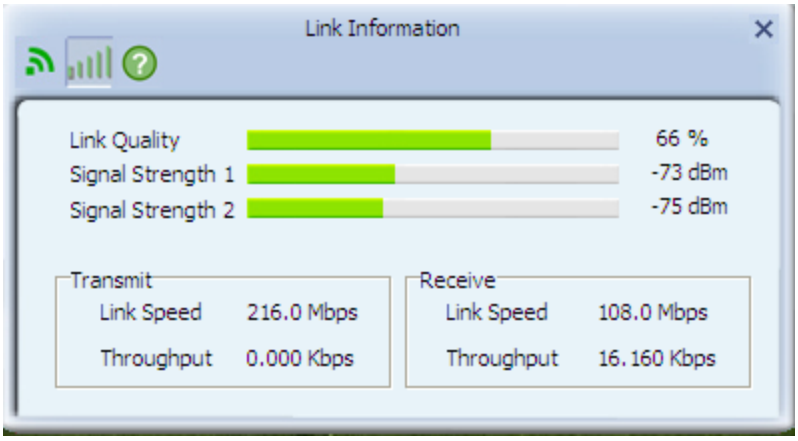

Figure 3-25

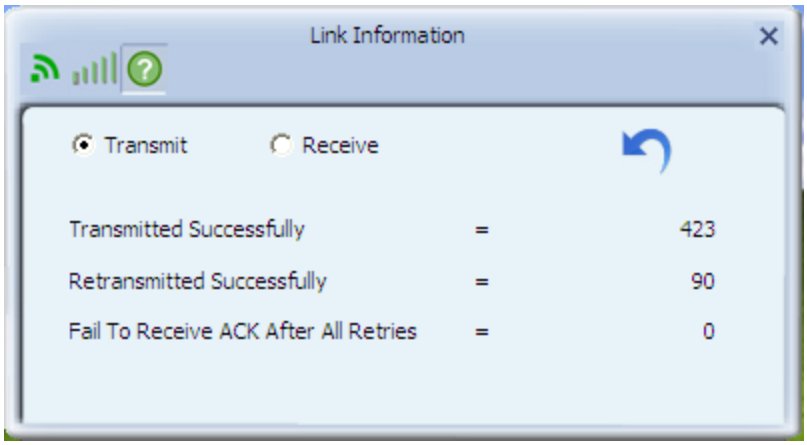

Figure 3-26

Click to empty the statistics.

3.6 Advanced

Click “Red” button to change the advanced configuration.

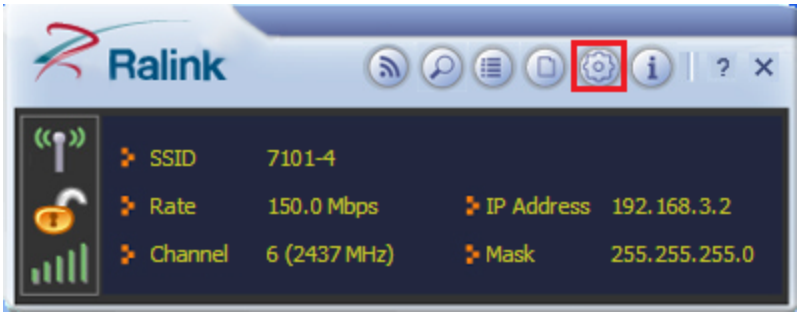

Figure 3-27

Here you can change “Wireless Mode” and select your country’s region code.

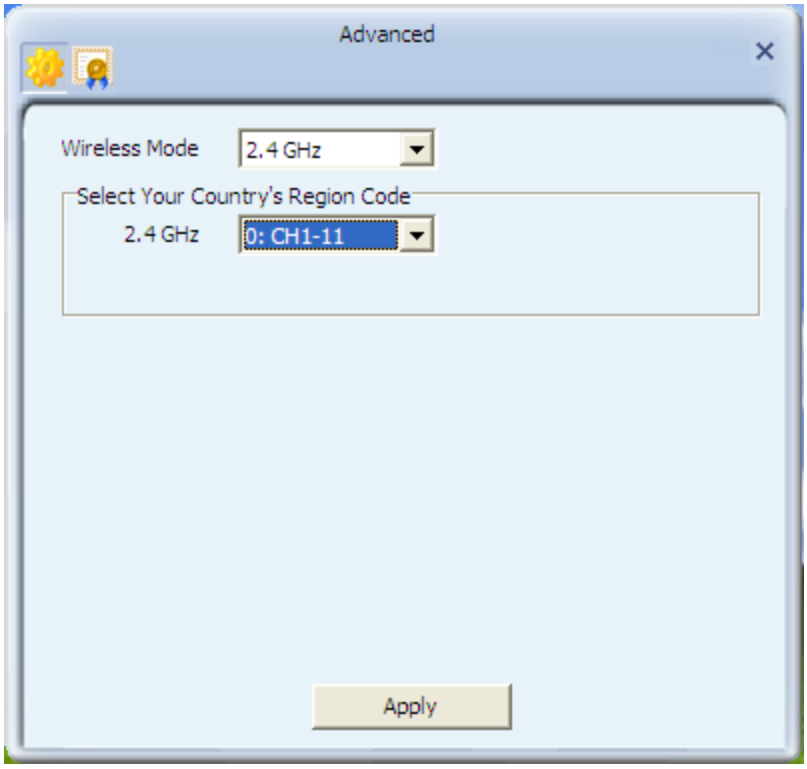

Figure 3-28

Here you can install certificate, including "User certificate" and "Issuer certificate". Click button to select certificate file, and click button to install.

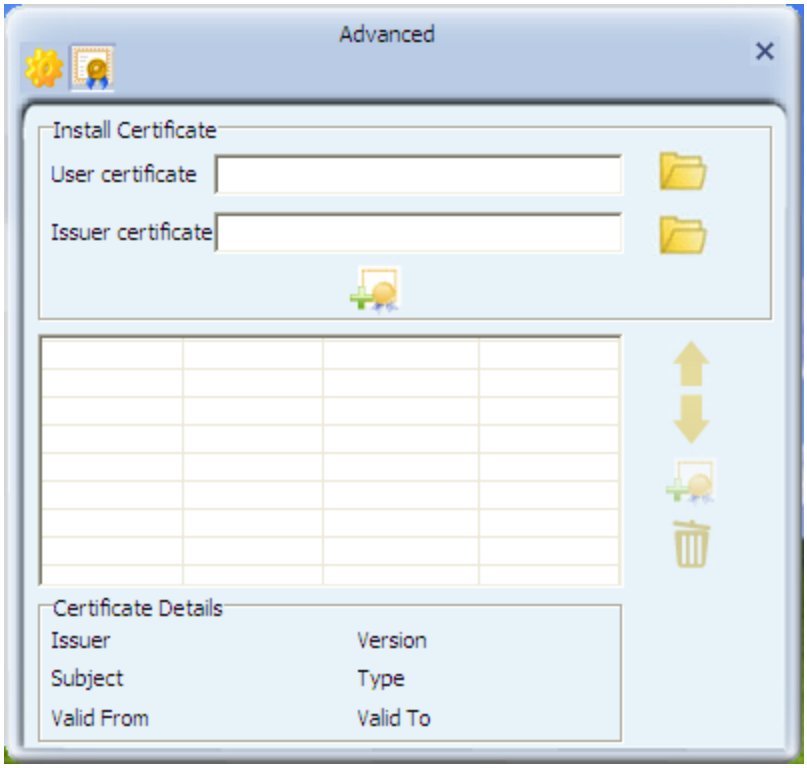

Figure 3-29

4 FAQ

This chapter provides solutions to problems that may occur during the installation and operation of the Wireless PCI Adapter. Read the descriptions below to solve your problems.

1. I cannot communicate with the other computers linked via Ethernet in the Infrastructure configuration.

Make sure that the PC to which the Adapter is associated is powered on.

Make sure that your Adapter is configured on the same channel and with the same security options as with the other computers in the Infrastructure configuration.

2. What should I do when the computer with the Adapter installed is unable to connect to the wireless network and/or the Internet?

Check that the LED indicators for the broadband modem are indicating normal activity. If not, there may be a problem with the broadband connection.

Check that the LED indicators on the wireless router are functioning properly. If not, check that the AC power and Ethernet cables are firmly connected.

Check that the IP address, subnet mask, gateway, and DNS settings are correctly entered for the network.

In Infrastructure mode, make sure the same Service Set Identifier (SSID) is specified on the settings for the wireless clients and access points.

In Ad-Hoc mode, both wireless clients will need to have the same SSID. Please note that it might be necessary to set up one client to establish a BSS (Basic Service Set) and wait briefly before setting up other clients. This prevents several clients from trying to establish a BSS at the same time, which can result in multiple singular BSSs being established, rather than a single BSS with multiple clients associated to it.

Check that the Network Connection for the wireless client is configured properly.

If Security is enabled, make sure that the correct encryption keys are entered on both the Adapter and the access point.